United States Environmental Protection Agency
Region V
POLLUTION REPORT

Date: Monday, November 24, 2008
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Subject: *Ongoing Time-Critical Removal Activities*
Kalamazoo River OU5 - Plainwell Impoundment
Plainwell & Kalamazoo, MI

POLREP No.:	8	**Site #:**	059BBB05
Reporting Period:	08/17/2008 - 10/04/2008	**D.O. #:**	
Start Date:		**Response Authority:**	CERCLA
Mob Date:		**Response Type:**	Time-Critical
Completion Date:		**NPL Status:**	NPL
CERCLIS ID #:		**Incident Category:**	Removal Action
RCRIS ID #:		**Contract #**	

Site Description
In 2007, over 37,000 cubic yards or 1,059 truckloads of PCB-contaminated sediment were removed from the river and nearby banks. This includes removal areas 1, 2, 3A and B, 4A and B, 5, 6A and B, 7 and 8. They have completed work in the Phase 1 coffer dam area with construction of the western water diversion structure (Phase 1 coffer dam), which maintains the current flow of the river over the eastern spillway area. This allowed workers to dredge behind the dam, build a water control structure, and remove the portion of the dam in the former powerhouse area.

So far in 2008, workers have removed sediment and restored banks along some 3,000 feet of riverbank including areas 9A and B, 10A and B, 11A and B, and 12A and B. Work has been completed on mid-channel areas B and C, removal of the Phase 1 cofferdam, and construction of the Phase 2 cofferdam system just upstream of the eastern portion (spillway) of the dam. As of October 1, 2008, some 61,500 cubic yards or 1,756 truckloads of PCB-contaminated sediment have been removed this year. The water control structure, which was constructed during Phase 1, will remain in place in the western channel as a means of managing the water level in the impoundment to facilitate the dredging operations. After the mid-channel and near-shore sediment removal activities are complete, the water control structure will be removed; allowing the Kalamazoo River to flow freely through the new western channel, past what was once the Plainwell Dam.

Excavated Kalamazoo River sediment is being sent off-site to commercial landfills for disposal. Sediment with PCBs above the 50 ppm level will continue to be sent off-site to Environmental Quality Co.□s Wayne Disposal Landfill in Belleville, Mich. Sediment with less than 50 ppm PCBs, which is considered nonhazardous waste, will continue to be sent to Allied Waste□s C and C Landfill near Marshall, Michigan and their Ottawa Farms Landfill near Coopersville, Michigan.

See Pollution Report #1 for additional information.

Current Activities

During the week ending July 26, 2008, Arcadis collected ten water samples from the wastewater treatment system located at Staging Area 4N (W_SA4N_Influ_0012, W_SA4N_Influ_0013, W_SA4N_MidA_0012, W_SA4N_MidA_0013, W_SA4N_MidB_0012, W_SA4N_MidB_0013, W_SA4N_EffluA_0012, W_SA4N_EffluA_0013, W_SA4N_EffluB_0012, and W_SA4N_EffluB_0013). The analytical results for the effluent water treatment samples indicated PCB levels below the discharge criteria for water.

Arcadis also collected two water samples from the Kalamazoo River (TS30055 and TS30056) and one rinsate sample from the equipment that Arcadis used to collect the water samples from the river (TS30059). The analytical results for the river water samples indicated detectable levels of suspended solids (9.9 to 10.2 mg/L), and PCB levels below the screening criteria for water.

Arcadis collected four soil samples from Area 11A (TS20132 through TS20135). Due to previous exceedances, two of the soil samples were resampled as follows: TS20133 (Grid 6BS □ resample from TS20129), and TS20134 (Grid 5 TSCA □ TS20128). Arcadis directed Terra to excavate an additional six inches of soil in these two grids. Additional confirmation samples were collected, however, both of the confirmation samples were in exceedance of the cleanup criteria for soil of 5 mg/kg. Arcadis directed Terra to excavate an additional six inches in Grid 5 TSCA. They resampled Grid 5 TSCA again. This sample, TS20135, also exceeded the cleanup criteria for soil. The remaining sample, TS20132, had detectable levels of PCBs; however, the sample did not exceed the cleanup criteria for soil.

During the week of July 26, 2008 (July 21 through 25, 2008), Arcadis performed turbidity monitoring on the Kalamazoo River at Area 12A, one upstream and one or two downstream locations. In addition, on July 24, 2008, Arcadis performed turbidity monitoring at Area 11A, one upstream and one downstream location. The intermediate downstream location, TML-2, was not accessible during sheet pile installation. On July 23, 2008, a visible plume was observed, and operations shutdown from 10:30 to 11:00 AM, and again from 1 to 2 PM. Terra readjusted turbidity curtain in Areas 11A and 12A. However, during that time, the downstream results were less than twice the upstream results. The remaining downstream results were less than twice the upstream results.

Arcadis also moved the boat launch from near Staging Area 3S to Area 12B. They cleared

debris that collected in the water control structure.

Terra continued to stockpile and directly load out TSCA sediment from Area 13A. They also continued to process sediment/soil and load out non-TSCA sediment/soil from Staging Areas 4N and 5S. Staging Area 3S was being dismantled, including pulling out the liner to dispose of offsite. Terra continued excavation of the floodplain and bank sediment/soils in Areas 11A and 12A. Due to elevated core sample results, Terra excavated Area 6B nearshore, and backfilled with topsoil. The turbidity curtain in Areas 11A and 12A was adjusted.

King Company installed sheet piling in Mid-Channel B and Phase 2 Coffer Dam. They also prepared for the Phase 2 Coffer Dam excavation.

JFNew continued restoration activities in Areas 10B and 12B. Areas 11B and 12B were seeded. They began to restore Area 6B after the requested excavation was completed.

During the week ending July 26, 2008, Terra shipped 43 total loads of non-TSCA-level sediment/soil (2,176.63 tons) to the Ottawa Farms Landfill in Coopersville, MI. No shipments were sent to the C & C Landfill, in Marshall, MI. Terra also shipped 40 loads of TSCA-level sediment/soil (1,885.09 tons) to the Wayne Disposal Site 2 Landfill in Belleville, MI.

During the week ending August 2, 2008, Arcadis collected two water samples from the Kalamazoo River (TS30058 and TS30059) and one rinsate sample from the equipment that Arcadis used to collect the water samples from the river (TS30060). The analytical results for the water samples indicated detectable levels of suspended solids (9.9 to 10.2 mg/L), and PCB levels below the screening criteria for water.

Arcadis also collected one soil sample from Area 11A (TS20141), and five soil samples from Area 12A (TS20136 through TS20140). All five samples collected from Area 12A had detectable levels of PCBs below the soil cleanup criteria. However, the sample collected from Area 11A had a result that was in exceedance of the cleanup criteria for soil. As a result, Arcadis directed Terra to excavate an additional six inches of soil from the grid from which Arcadis collected the sample; specifically, Grid 8BS.

No samples were collected this week from the water treatment systems as there was not enough water treated.

Arcadis monitored the turbidity of the Kalamazoo River at one location upstream and two locations downstream of Area 12A and Mid-Channel B. On July 29 and 30, Arcadis observed a visible plume along the bank adjacent to Mid-Channel B, downstream of the Mid-Channel B turbidity curtain. However, the downstream turbidity readings were not more than twice the value of the upstream turbidity reading. As a precaution, Terra installed an additional turbidity curtain adjacent to Mid-Channel B that ran parallel to the bank. On July 31 and August 1, Arcadis observed a visible plume, and observed downstream turbidity readings that were more than twice the upstream readings. As a result, Arcadis directed Terra to suspend the excavation operations in Mid-Channel B, and to install additional sheet

pilings toward the bank. On August 2, none of the downstream turbidity readings were more than twice the upstream reading.

Terra continued restoration activities in Area 12B; excavation of sediment from Mid-Channel B; spreading of topsoil in Area 10B; and excavation of soil from the bank of Area 12A; and treating sediment/soil at Staging Area 4N. Terra completed the restoration of the grids in Area 6B from which Terra had excavated additional soil during the week ending July 26, 2008. Terra covered the access road to Staging Area 3S with clean topsoil, and removed the access road to Area 10B.

The King Company began constructing the Phase 2 Coffer Dam immediately upstream of the Plainwell Dam, and JFNew conducted restoration activities in Area 12B.

During the week ending August 2, 2008, Terra shipped 43 total loads of non-TSCA-level sediment/soil (2,327.50 tons) to the Ottawa Farms Landfill in Coopersville, MI. No shipments were sent to the C & C Landfill, in Marshall, MI. Terra did not ship any TSCA-level sediment/soil to the Wayne Disposal Site 2 Landfill in Belleville, MI.

During the week ending August 9, 2008, Arcadis collected three soil samples from Area 11A (TS20144 through TS20146), and two soil samples from Area 12A (TS20142 and TS20143). Arcadis split TS20142 with START. Two of the samples from Area 11A, TS20145 from Grid 6BS and TS20146 from Grid 8BS, exceeded the cleanup criteria for soil. As a result, Arcadis directed Terra to excavate an additional six inches of soil from these grids. The third sample from Area 11A, TS20144 from Grid 5 TSCA, was a resample that was below the cleanup criteria. The remaining two samples from Area 12A were below the cleanup criteria.

Arcadis also collected two water samples from the Kalamazoo River (TS30061 and TS30062) and one rinsate sample from the equipment that Arcadis used to collect the water samples from the river (TS30063). The analytical results for the water samples did not find detectable levels for PCBs.

No samples were collected from the water treatment systems located on the Site this week.

From August 4, 2008 to August 6, 2008, Arcadis performed turbidity monitoring on the Kalamazoo River at Mid-Channel Area B, one upstream and two downstream locations. On August 6, 2008, Arcadis also performed turbidity monitoring on the Kalamazoo River at Area 11A, one upstream and two downstream locations. On August 7 and 8, 2008, Arcadis performed turbidity monitoring on the Kalamazoo River at Area 12A, one upstream and two downstream locations. All downstream results were less than twice the upstream results.

Terra continued to excavate sediment and soil from Mid-Channel B, the bank, nearshore section and floodplain of Area 12A, and the bank of Area 11A. Terra continued maintenance operations related to the turbidity curtains and sheet pilings; and treated sediment/soil at Staging Area 4N.

King Company continued and completed the construction of the Phase 2 Coffer Dam.

During the week ending August 9, 2008, Terra shipped 69 total loads of non-TSCA-level sediment/soil (3,436.99 tons), of which 2,587.31 tons were shipped to the Ottawa Farms Landfill in Coopersville, MI, and 849.68 tons were shipped to the C & C Landfill, in Marshall, MI. Terra also shipped 14 loads of TSCA-level sediment/soil (701.67 tons) to the Wayne Disposal Site 2 Landfill in Belleville, MI.

During the week ending August 16, 2008, Arcadis collected three soil samples from Area 11A (TS20147, TS20154 and TS20155), and six soil samples from Area 12A (TS20148 through TS20153). Arcadis split samples TS20150 and TS20154 with START. None of the samples exceeded the cleanup criteria for soil. As a note, TS20147 was a resample from Area 11A Grid 6BS, and TS20155 was a resample from Area 11A 8BS, which had been re-excavated due to an exceedance.

Arcadis also collected two water samples from the Kalamazoo River (TS30064 and TS30065) and one rinsate sample from the equipment that Arcadis used to collect the water samples from the river (TS30066). The analytical results for the water samples did not indicate detectable levels for PCBs.

Arcadis collected five water samples from the wastewater treatment system located at Staging Area 5S (W_SA5S_Influ_0011, W_SA5S_MidA_0011, W_SA5S_MidB_0011, W_SA5S_EffluA_0011, and W_SA5S_EffluB_0011). The analytical results for the effluent water treatment samples indicated PCB levels below the screening criteria for water.

Arcadis also collected a one nine-point composite soil sample from the overburden material that Terra removed from Area 11A (TS10000) as part of a habitat reconstruction. This overburden material was potentially going to be used as fill, however, the sample was in exceedance for lead, and could not be used as fill. The overburden material was hauled offsite for disposal.

In addition, Arcadis collected one wipe sample, VT-1(081108) from the Terra vacuum truck. The analytical result was below the 10 µg/100cm2 screening criteria.

During the week of August 16, 2008 (August 11 through 16, 2008), Arcadis performed turbidity monitoring on the Kalamazoo River at Area 12A, one upstream and one or two downstream locations. Monitoring was limited due to lack of water in the excavation due to re-suspension control system maintenance. On August 15, 2008, a visible plume was observed downstream. Terra installed additional posts to attach the turbidity curtain, however, during that time, the downstream results were less than twice the upstream results. The remaining downstream results were also less than twice the upstream results.

Terra continued the excavation of soil from the bank and floodplain of Area 12A; began to excavate the overburden material from Area 11A as part of the habitat reconstruction, began and completed the removal of sheet pilings that had provided protection against the river while Terra excavated Mid-Channel B; and initiated and completed the re-excavation of

Grids 6 and 8 in Area 11A.

During the week the ending August 16, 2008, Terra shipped 46 total loads of non-TSCA-level sediment/soil (2,319.50 tons), of which 2,115.77 tons were shipped to the Ottawa Farms Landfill in Coopersville, MI, and 203.73 tons were shipped to the C & C Landfill, in Marshall, MI. Terra also shipped 23 loads of TSCA-level sediment/soil (1,185.74 tons) to the Wayne Disposal Site 2 Landfill in Belleville, MI.

During the week ending August 23, 2008, Arcadis collected three soil samples from Area 11A (TS20177 through TS20179), four soil samples from Area 12A (TS20156, TS20157, TS20175, and TS20176), and seventeen soil samples from Area 12A1 (TS20158 through TS20174). Arcadis split TS20174 and TS20176 with START. Three soil samples had levels of PCBs that exceeded the cleanup criteria for soil (TS20170 from Area 12A1 Grid 6D TSCA, TS20178 from Area 11A Grid 6A TSCA, and TS20179 from Area 11A Grid 6B TSCA). Arcadis directed Terra to re-excavated these three grid areas an additional six inches.

Arcadis also collected two water samples from the Kalamazoo River (TS30067 and TS30068) and one rinsate sample from the equipment that Arcadis used to collect the water samples from the river (TS30069). The analytical results for the water samples did not indicate detectable levels for PCBs.

No samples were collected from the water treatment systems located on the Site this week, as there was not enough water treated.

During the week of August 23, 2008 (August 18 through 22, 2008), Arcadis performed turbidity monitoring on the Kalamazoo River at Area 12A, one upstream and one or two downstream locations. Monitoring was limited due to lack of water in the excavation. All of the downstream results were less than twice the upstream results.

Terra continued turning and loading out TSCA sediment/soil in Area 13A. Soil processing activities continues at Staging Area 4N. Excavation activities progressed in Areas 11A and 12A. Terra removed debris from the mid-channel near Area 13. Air monitoring was conducted in Area 12A1. Small finger roads were installed on the north shore to aid excavation activities. The turbidity curtain had two small holes that were repaired.

The stake-holders meeting was conducted on August 20, 2008. After the meeting, several members took a tour of the Site to observe progress.

King Company continued installing sheet piling for the Mid-Channel A excavation, and at Phase 2 Coffer Dam. Sheet piling was removed from Area 10A.

Michigan Laser was onsite to repair a sensor in one of the Terra excavators (PC-300).

JFNew continued restoration activities in Area 9A.

During the week the ending August 23, 2008, Terra shipped 65 total loads of non-TSCA-level sediment/soil (3,196.78 tons), of which 3,146.20 tons were shipped to the Ottawa Farms Landfill in Coopersville, MI, and 50.58 tons were shipped to the C & C Landfill, in Marshall, MI. Terra also shipped 33 loads of TSCA-level sediment/soil (1,654.06 tons) to the Wayne Disposal Site 2 Landfill in Belleville, MI.

During the week ending August 30, 2008, Arcadis collected nine soil samples from Area 11A (TS20180 through TS20186, TS20193 and TS20194), three soil samples from Area 11A1 (TS20188 through TS20190), and nine soil samples from Area 12A (TS20187, and TS20191 through TS20201). Arcadis split TS20195 and TS20199 with START (Note: The START-designated name for the samples are APS-082708-39-SD/TS20195 and APS-082708-40-SD/TS20199, respectively). None of the samples exceeded the cleanup criteria for soil. As a note, three of the samples were resamples: TS20180 from Area 11A Grid 6D TSCA, TS20193 from Area 11A Grid 6A TSCA, and TS20194 from Area 11A Grid 6B TSCA.

Arcadis also collected three water samples from the Kalamazoo River (TS30070 through TS30072) and one rinsate sample from the equipment that Arcadis used to collect the water samples from the river (TS30073). The analytical results for the water samples did not indicate detectable levels for PCBs.

No samples were collected from the water treatment systems located on the Site this week, as there was not enough water treated for shipment.

During the week of August 30, 2008 (August 25 through 28, 2008), Arcadis performed turbidity monitoring on the Kalamazoo River, one upstream and one or two downstream locations, with the monitoring moving downstream during the week. On August 25, 2008, Arcadis monitored Area 12A. On August 26, 2008, Arcadis monitored Areas 11A, 12A, and Mid-Channel Area A. On August 27, 2008, the monitoring was in regard to Areas 12S and Mid-Channel Area A. On August 28, 2008, the monitoring was in regard to Mid-Channel Area A. All of the downstream results were less than twice the upstream results.

Due to elevated sample results, Terra re-excavated Area 11A. Terra continued turning and loading TSCA soil from Area 13A. Due to a steep ditch in the road, Terra built up the road near Staging Area 4N. Terra continued load out activities at Staging Area 4N, and excavating Mid-Channel A. The overburden from Area 11A was loaded and hauled offsite. Overburden from Area 12A habitat reconstruction was stockpiled in the northeast corner of Area 12A1 for potential fill. Due to the upcoming holiday, only a skeleton crew remained onsite on August 29, 2008, conducting repairs.

During the week the ending August 30, 2008, Terra shipped 34 total loads of non-TSCA-level sediment/soil (1,744.19 tons), were shipped to the Ottawa Farms Landfill in Coopersville, MI. No shipments were sent to the C & C Landfill, in Marshall, MI. Terra also shipped 39 loads of TSCA-level sediment/soil (1,919.92 tons) to the Wayne Disposal Site 2 Landfill in Belleville, MI.

During the week ending September 6, 2008, five water samples from the water treatment

system located at Staging Area 4N (W_SA4N_Influ_0014, W_SA4N_MidA_0014, W_SA4N_MidB_0014, W_SA4N_EffluA_0014, and W_SA4N_EffluB_0014), and nine water samples from the water treatment system located at Staging Area 5S (W_SA5S_Influ_0012 and W_SA5S_Influ_0013, W_SA5S_MidA_0012 and W_SA5S_MidA_0013, W_SA5S_MidB_0012, W_SA5S_EffluA_0012 and W_SA5S_EffluA_0013, W_SA5S_EffluB_0012, and W_SA5S_Dup_0006). The effluent samples from Staging Area 4N had detectable levels of total phosphorus (0.05 to 0.07 mg/L). The effluent samples from Staging Area 5S had detectable levels of total PCBs (0.10 µg/L from W_SA5S_EffluB_0012, and W_SA5S_Dup_0006) and total phosphorus (0.19 to 0.24 mg/L). Due to the detection in the effluent, this water was not discharged, but retreated and resampled. The analytical results for the remaining effluent water treatment samples indicated PCB levels below the cleanup criteria for water.

Arcadis also collected two water samples from the Kalamazoo River (TS30074 and TS30075) and one rinsate sample from the equipment that Arcadis used to collect the water samples from the river (TS30076). The analytical results for the water samples did not indicate detectable levels for PCBs.

Arcadis collected five wipe samples from the roll-off dumpster where Terra stored the spent carbon from the water treatment systems [RO-20-05 (090208), RO-171 (090208), RO-267 (090208), RO-265 (090208), and RO-170 (090208)]. The roll-offs were decontaminated, then sampled. The analytical results for the wipe samples did not indicate PCB levels above detection.

Arcadis also collected one nine-point composite soil sample from the overburden material that Terra removed from Area 12A (TS10001) as part of the habitat reconstruction. However, the sample was in exceedance for lead, so the overburden was hauled offsite for disposal.

No soil confirmation samples were collected this week.

During the week of September 6, 2008 (September 2 through 6, 2008 except September 4, 2008), Arcadis monitored the turbidity of the Kalamazoo River at one location upstream and two locations downstream of the following removal areas: Phase 2 Coffer Dam Area, Mid-Channel A, Area 13B, and Area 12A. The monitoring of the Phase 2 Coffer Dam was during pumping of the area. The upstream monitoring location for the Phase 2 Coffer Dam Area was located just upstream; the downstream monitoring reading was taken directly from the pump discharge behind the former Plainwell Impoundment spillway. All downstream turbidity readings were less than twice the upstream turbidity readings.

Terra continued to excavate sediment from Mid-Channel A and Area 13B and continued to remove the overburden material from Area 12A. Terra also began pumping water out of the Phase 2 Coffer Dam Area in order to prepare for the excavation of sediments from the area.

During the week the ending September 6, 2008, Terra shipped 14 total loads of non-TSCA-level sediment/soil (726.44 tons), were shipped to the Ottawa Farms Landfill in Coopersville,

MI. No shipments were sent to the C & C Landfill, in Marshall, MI. Terra also shipped 24 loads of TSCA-level sediment/soil (1,196.12 tons) to the Wayne Disposal Site 2 Landfill in Belleville, MI.

During the week ending September 13, 2008, Arcadis collected eleven water samples from the wastewater treatment system located at Staging Area 4N (W_SA4N_Influ_0015, W_SA4N_MidA_0015, W_SA4N_MidB_0015, W_SA4N_EffluA_0015, W_SA4N_EffluB_0015, W_SA4N_Influ_0016, W_SA4N_MidA_0016, W_SA4N_MidB_0016, W_SA4N_EffluA_0016, W_SA4N_EffluB_0016, and W_S4N_Dup_007), and six water samples from the wastewater treatment system located at Staging Area 5S (W_SA5S_Influ_0014, W_SA5S_MidA_0014, W_SA5S_EffluA_0014, W_SA5S_Influ_0015, W_SA5S_MidA_0015, W_SA5S_EffluA_0015). Arcadis split one sample, W_SA4N_EFFLUA_0015 with START. The analytical results for the Arcadis and split effluent water treatment samples indicated PCB levels below the screening criteria for water.

Arcadis also collected two water samples from the Kalamazoo River (TS30077 and TS30078) and one rinsate sample from the equipment that Arcadis used to collect the water samples from the river (TS30079). The analytical results for the water samples did not indicate detectable levels for PCBs.

Arcadis also collected two nine-point composite samples from fill material that had been used onsite in quantities over 10,000 cubic yards. The sample TS10002 was taken from the Bulkena sand, and sample TS10003 was taken from the Gun Lake topsoil.

Arcadis collected one wipe sample from the vacuum truck [VT-80 (090908)]. The analytical results for the wipe sample did not indicate PCB levels above detection.

No soil confirmation samples were collected this week.

During the week of September 13, 2008 (September 8 through 12, 2008), Arcadis performed turbidity monitoring on the Kalamazoo River at Mid-Channel Area A, one upstream and two downstream locations. On September 8, 2008, additional monitoring was conducted in regards to the Phase 2 Coffer Dam, similar to the week of September 6, 2008. All of the downstream results were less than twice the upstream results.

Terra continued to turn stockpiled TSCA sediments/soil and load out from Staging Areas 5S, and process and load out non-TSCA sediment/soil from Staging Areas 4N. Terra continued dewatering the Phase 2 Coffer Dam area, and excavated non-TSCA sediment. To extend the excavator reach, rock was placed in the excavator dock. Additional sheet piling was installed in the Phase 2 Coffer Dam area. Terra continued excavating sediment from Mid-Channel A and Area 13B near-shore.

During the week the ending September 13, 2008, Terra shipped 61 total loads of non-TSCA-level sediment/soil (2,967.75 tons), of which 2,501.22 tons were shipped to the Ottawa Farms Landfill in Coopersville, MI, and 466.53 tons were shipped to the C & C Landfill, in

Marshall, MI. Terra also shipped 10 loads of TSCA-level sediment/soil (493.33 tons) to the Wayne Disposal Site 2 Landfill in Belleville, MI.

Due to excessive rain starting around September 12, 2008, it is estimated the Kalamazoo River exceeded 50 year flood levels. Water levels exceeded the height of the sheet piling in Mid-Channel A and rose up to the haul road in Areas 12A and 13A.. Parts of the near shore in upstream areas also flooded.

Initial concerns involved the possible flooding of the Area 5S material staging area. On Saturday (9/13) and Sunday (9/14) the berm separating the 5S area from the river was raised and strengthened. Aboveground storage tanks were moved to Staging Area 4N, as that was the highest ground. Neither staging area flooded.

On Sunday at approximately 9 pm, a noticeable scour developed in the center area between the Water Control Structure and the Spillway and coffer dam. The scour occurred when flow began overtopping the coffer dam. The scour cut a channel around the end of the sheet pile that creates the coffer dam. This allowed water from the main channel to flow around the sheet pile to the area behind the coffer dam and over the spill way. Efforts were made to shore up the scour area so that the earthen berm did not continue to erode away creating a full breach. Terra initially began hand placing stone along the scoured embankment. Gabien baskets were later constructed and initially filled with river rock and concrete, and then were lined with bags and filled with concrete. These were placed on the east side of the peninsula, as the river current was carving out the peninsula and threatening the retaining wall. Two to three rows of gabien baskets were stacked from the river bottom to near the elevation of the peninsula.

Attempts were made to remove the stop logs in the water control structure; however, the pressure of the water was too excessive. Debris that was blocking the structure was removed. A water laser was mobilized to the site and used to cut the stop logs and debris.

Concrete was sprayed on the river rock downstream of the water control structure. However, due to the force of the water through the structure, some of the rock eroded. Terra brought in jersey barriers and placed them along the shoreline immediately downstream of the water control structure.

King Company had a diver cut down the sheet piling in the Phase 2 Coffer Dam area, to relieve pressure on the water control structure and reduce river velocity.

During the week ending September 20, 2008, Arcadis collected five water samples from the wastewater treatment system located at Staging Area 4N (W_SA4N_Influ_0017, W_SA4N_MidA_0017, W_SA4N_MidB_0017, W_SA4N_EffluA_0017, W_SA4N_EffluB_0017) and five water samples from the wastewater treatment system located at Staging Area 5S (W_SA5S_Influ_0016, W_SA5S_MidA_0016, W_SA5S_MidB_0016, W_SA5S_EffluA_0016, and W_SA5S_EffluB_0016). One of the effluent samples from Staging Area 5S had detectable levels of total PCBs (0.10 µg/L) from W_SA5S_EffluA_0016 and total suspended solids (4 mg/L). The detected concentration was

below the quantification level of 0.20 µg/L. Due to the flooding, Terra continuously discharged the treated wastewater without storage. The analytical results for the remaining effluent water treatment samples indicated PCB levels below the cleanup criteria for water.

Arcadis collected two wipe samples from the Terra vacuum truck [VT-2 (091708) and VT-30 (091808)]. The analytical results for the VT-30 wipe sample indicated 0.3 µg per 100 square cm. The analytical results for the VT-2 wipe sample did not indicate PCB levels above detection.

No soil confirmation samples or water samples from the Kalamazoo River were collected this week.

Arcadis did not conduct turbidity monitoring during the week.

During the week the ending September 20, 2008, Terra shipped 10 total loads of non-TSCA-level sediment/soil (498.04 tons), were shipped to the Ottawa Farms Landfill in Coopersville, MI. No shipments were sent to the C & C Landfill, in Marshall, MI. No shipments of TSCA-level sediment/soil were sent to the Wayne Disposal Site 2 Landfill in Belleville, MI.

During the week ending September 27, 2008, Arcadis collected three water samples from the wastewater treatment system located at Staging Area 5S (W_SA5S_Influ_0017, W_SA5S_MidB_0014, and W_SA5S_EffluB_0014). The analytical results for the effluent water treatment samples indicated PCB levels below the screening criteria for water.

Arcadis also collected two water samples from the Kalamazoo River (TS30080 and TS30081) and one rinsate sample from the equipment that Arcadis used to collect the water samples from the river (TS30082). The analytical results for the water samples did not indicate detectable levels for PCBs.

No soil confirmation samples were collected this week.

During the week of September 27, 2008 (September 25 through 27, 2008), Arcadis monitored the turbidity of the Kalamazoo River at one location upstream and two locations downstream of the Mid-Channel A/Area 13B removal areas. All downstream turbidity readings were less than twice the upstream turbidity readings.

Arcadis conducted a reflection test at the water control structure in response of the water levels receding. An additional GPS station was set up near the Staging Area 5S.

Flood response activities continued into mid-week. Jersey barriers were placed on the east side of the peninsula blocking the flow of water between the gabien baskets that were staged along the peninsula and the existing sheet piling from the Phase 2 Coffer Dam area. Additional sheet piling was installed to block this opening as well. All the stop logs, except the bottom row, were finally cut and removed from the water control structure.

By mid-week, the water levels were low enough that removal activities could

continue. Terra continued to process and load out sediment/soil from Staging Areas 4N and 5S. Terra completed excavation of the near-shore sediments in Area 13B and the south side of the Mid-Channel A excavation. They continued to excavate in the Phase 2 Coffer Dam area.

King Company continued building a temporary bridge to the peninsula.

During the week the ending September 27, 2008, Terra shipped 48 total loads of non-TSCA-level sediment/soil (2,401.65 tons), were shipped to the Ottawa Farms Landfill in Coopersville, MI. No shipments were sent to the C & C Landfill, in Marshall, MI. No shipments of TSCA-level sediment/soil were sent to the Wayne Disposal Site 2 Landfill in Belleville, MI.

During the week ending October 4, 2008, Arcadis collected ten water samples from the wastewater treatment system located at Staging Area 5S (W_SA5S_Influ_0018, W_SA5S_MidB_0015, W_SA5S_EffluB_0015, W_SA5S_Dup_0007, W_SA5S_Influ_0019, W_SA5S_MidA_0017, W_SA5S_MidB_0016, W_SA5S_EffluA_0017, W_SA5S_EffluB_0016, and W_SA5S_Dup_0008). Arcadis split one sample, W_SA5S_EffluB_0015 with START (Note: The START-designated name for this sample is APS-092908-05-WT/W_SA5S_EffluB_0015). Two effluent samples and the duplicate sample (W_SA5S_EffluA_0017, W_SA5S_EffluB_0016, and W_SA5S_Dup_0008) had detectable levels of total PCBs (0.2 to 0.3 µg/L). This wastewater was not discharged. Terra will replace the carbon, and the water will be retreated and resampled. The remaining analytical results for the Arcadis and split effluent water treatment samples indicated PCB levels below the screening criteria for water.

Arcadis collected ten sediment samples from Area 13B, which included the south portion of Mid-Channel A (TS20202 through TS20211). Arcadis split two samples, TS20202 and TS20209 with START. The analytical results for the Arcadis and split sediment samples indicated PCB levels below the cleanup criteria for sediment.

No water samples from the Kalamazoo River were collected this week.

Due to no excavation in the near-shore or mid-channel areas, Arcadis did not conduct turbidity monitoring during the week.

King Company continued erecting the bridge to the peninsula, installing sheet piling and laying down platforms.

Terra continued soil processing and load out sediment/soil from Staging Areas 4N and 5S. Terra continued excavation of the sediments from Phase 2 Coffer Dam area. The sheet piling from the upstream and downstream in the Mid-Channel A area were removed to be located on the north side of the river. Terra began to excavate soil from the Area 13B floodplain. Restoration, including grading topsoil and installing silt fencing, were conducted in Areas 11A and 12A. Silt fencing was installed in Area 13B as well. A finger road located in Area 12A to allow easy access was removed. Due to elevated lead levels, the overburden

stockpiled in Area 12A1 was loaded out.

During the week the ending October 4, 2008, Terra shipped 76 total loads of non-TSCA-level sediment/soil (3,924.35 tons), were shipped to the Ottawa Farms Landfill in Coopersville, MI. No shipments were sent to the C & C Landfill, in Marshall, MI. Terra also shipped 23 loads of TSCA-level sediment/soil (1,092.56 tons) to the Wayne Disposal Site 2 Landfill in Belleville, MI.

Planned Removal Actions
See Pollution Report #1.

Next Steps
Complete demobilization and decommissioning activities at Staging Area 5S. Continue excavating soil and sediment from Removal Area 13A. Continue post-construction activities in Removal Area 13B. Continue solidifying soil/sediment at Staging Area 4N. Decommission the WCS. Implement the groundwater investigation/monitoring program.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
RST/START	$434,000.00	$324,958.00	$109,042.00	25.12%
Intramural Costs				
Total Site Costs	$434,000.00	$324,958.00	$109,042.00	25.12%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.